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EXAMINER	
FREEMAN, JOHN D	

ART UNIT	PAPER NUMBER
1794	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/584,351	ONISHI, HIDESHI	
	Examiner	Art Unit	
	John Freeman	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 19 February 2009 has been entered.

Claim Rejections - 35 USC § 103

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-2, 4-6, and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miharu et al. (WO 96/18681) in view of Ninomiya et al. (US 6,184,288) and Saxton (US 5,032,632).

4. Regarding claims 1-2:

5. Miharu et al. (hereafter Miharu) disclose a thermoplastic resin composition comprising EVOH, an ionomer, and a polyamide (p3 ln 2-8). Suitable polyamides include nylon 6, nylon 66, and nylon 6/66 copolymer (p7 ln 5-9). The amount of polyamide ranges from 2 to 50 parts by weight relative to 100 parts by weight of EVOH. The thermoplastic can be used in a laminate with other layers including layers of polyamide and polyolefin (p9 ln 30-p10 ln 25). Polyolefins include polyethylene and polypropylene (p9 ln 34-35). Miharu discloses a laminate wherein a layer of the thermoplastic resin is surrounded by a layer of polyamide and a layer of polyolefin, which corresponds to Applicant's b/a/c structure. Example film thicknesses include 50 μm (p11 ln 33). Furthermore, the presently claimed thicknesses are merely dependent on the intended use for the film, and were well within the skill level of the ordinary artisan.

6. Miharu is silent with regard to a ratio of alkaline metal salt to alkaline earth metal salt, and a phosphorous compound.

7. Ninomiya et al. (hereafter Ninomiya) disclose ethylene-vinyl alcohol (EVOH) pellets and films made from said pellets (col 1 ln 7-12). The EVOH pellets exhibit improved moldability and provide

moldings with good appearance and quality and good stretchability (col 2 ln 1-6). Ninomiya saponifies ethylene-vinyl acetate to create the EVOH (col 2 ln 57-63). The pellets contain a boron compound (c1), an alkaline metal acetate (c3), an alkaline earth metal acetate (c4), and a phosphoric acid compound (c5) (col 2 ln 17-23). Ninomiya teaches the use of antioxidant compounds in the pellets (col 7 ln 24).

8. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the EVOH pellets as taught by Ninomiya in the thermoplastic composition taught by Miharu to provide good moldability and stretchability, as well as resultant molding having a good appearance.

9. Both Miharu and Ninomiya are silent with regard to a hindered phenol antioxidant.

10. Such antioxidants were well-known in the art at the time of the invention. For example, Saxton teaches an EVOH polymer having metal salts and a hindered phenolic antioxidant (col 2 ln 61-65, col 3 ln 1-2).

11. At the time of the invention, it would have been obvious to one of ordinary skill in the art to use a hindered phenolic antioxidant in the composition taught by the combination of Miharu in view of Ninomiya to improve the composition's resistance to oxidation.

12. Regarding the metal salts, Ninomiya mentions sodium acetate as an alkali metal salt (col 5 ln 5-9). The pellet contains 0.0001 to 0.1 part by weight of alkali salt (c3) and 0.0001 to 0.1 part by weight of alkaline earth metal salt (c4). As such, the amounts used result in a range of ratios that overlap with Applicant's range.

13. Ninomiya reports the weight of phosphoric acid compound (c5) in terms of weight, and not parts-per-million as Applicant describes. The examiner takes the position that Ninomiya's disclosure of 0.0005 to 0.1 parts by weight of phosphoric acid (col 4 ln 33) overlaps with the range claimed by Applicant because Ninomiya's range is so broad. Furthermore, the range disclosed by Applicant would have been made obvious to one of ordinary skill in the art through routine experimentation.

14. Ninomiya is silent with regard to the hindered phenol antioxidant content as claimed by Applicant. Saxton reports the weight of the hindered phenol antioxidant in terms of weight, and not parts-per-million as Applicant describes. The examiner takes the position that Saxton's disclosure of 0.05 to 0.5 weight percent (col 3 ln 1-2) overlaps with the range claimed by Applicant. Furthermore, the range disclosed by

Applicant would have been made obvious to one of ordinary skill in the art through routine experimentation.

15. With respect to the overlapping ranges discussed above, as set forth in MPEP 2144.05, in the case where the claimed range "overlap or lie inside ranges disclosed by the prior art", a *prima facie* case of obviousness exists, In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); In re Woodruff, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990).

16. Regarding claims 4 and 11:

17. As mentioned, Ninomiya's EVOH contains a boron compound (c1).

18. Regarding claims 5-6, 12-16:

19. Polyolefin and polyamide layers provide properties to laminates well-known in the art. For example, polyolefin layers are moisture barriers, and polyamide layers are oxygen barriers. Therefore at the time of the invention, one of ordinary skill would arrive at a structure wherein the polyolefin layer is the innermost layer, and the polyamide layer is the outermost layer in the laminate through routine experimentation depending on the end use. For example, in food packaging, a moisture barrier may be needed for a product, and therefore be located on the innermost layer next to said product, while an oxygen barrier is needed to keep the product from spoiling, and is located on the outer portion of the package.

20. Claims 3 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miharu et al. (WO 96/18681) in view of Ninomiya et al. (US 6,184,288) and Saxton (US 5,032,632) as applied to claims 1-2, 4-6, and 11-16 above, and further in view of Tachibana et al. (US 6,169,161).

21. Miharu in view of Ninomiya and Saxton is previously explained. Each reference is silent with respect to an end-capped polyamide.

22. The method of end-capping a polyamide was well-known in the art at the time of the invention. End-capping changes the terminal groups, as evidenced by Tachibana et al. (col 7 ln 31-41). The terminal group concentrations affect the overall properties of the polyamide polymer (col 8 ln 14-40).

23. Therefore at the time of the invention, it would have been obvious to one of ordinary skill in the art to use an end-capped polyamide depending on desired properties, in the combined invention of Miharu in view of Ninomiya and Saxton.

Claim Rejections - 35 USC § 112

24. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

25. Claims 1-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

26. Claim 1 recites “via at least one of an adhesive resin layer and another layer set as c (c1, c2,…)”. While the specification provides support for the use of an adhesive resin layer, it does not provide support for “at least one" adhesive resin layer. Similarly, while the specification provides support for an “other layer” between layers (a) and (b), it does not provide support for “at least one” other layer. The examiner notes the specification provides support for multiple (c) layers in the exemplary structures, but in these examples at most only one (c) layer is between layers (a) and (b). The specification also does not appear to support the use of an adhesive resin layer in conjunction with an “other layer” as the layers between layers (a) and (b). Applicant is invited to contact the examiner regarding this rejection if Applicant thinks it would help resolve this issue.

27. Claim 1 also recites the laminated article has a layer composition selected from the group consisting of “at least” b/a/b, b/a/c, etc. The specification does not appear to support the phrase “at least” these compositions, which includes not only those specifically recited compositions, but opens the claim to any other layer composition.

28. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

29. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

30. Claim 1 recites the laminated article has a layer composition selected from the group "consisting of at least" b/a/b, b/a/c, etc. The scope of the claim is confusing because the inclusive "at least" limitation appears to conflict with the exclusive "consisting of" language of the claim.

Response to Arguments

31. Applicant's arguments filed 19 February 2009 have been fully considered but they are not persuasive.

32. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

33. Applicant notes "the EVOH resin which contains comonomers of amide of Ninomiya and the compound of EVOH resin and PA resin of the present invention are quite different" (p9). Applicant submits Ninomiya's polymer is a copolymer of EVOH and an amide-containing monomer, while the present is obtained by a blending EVOH and PA. The examiner again notes the present claims do not recite a "mixture" or a "blend", but only require EVOH and polyamide. Further, Ninomiya does not require the EVOH to have amide side groups, i.e. the EVOH "may" further contain a minor amount of a comonomer selected from, *inter alia,* amides. Note too Ninomiya is a teaching reference. The disclosure of a copolymer of EVOH and an amide-containing monomer is not relied upon for the rejection. Rather Miharu discloses a blend of EVOH and PA, and Ninomiya discloses EVOH pellets having a boron compound (c1), an alkaline metal acetate (c3), an alkaline earth metal acetate (c4), and a phosphoric acid compound (c5). At the time of the invention, it would have been obvious to one of ordinary skill in the

art to use the EVOH pellets as taught by Ninomiya in the thermoplastic composition taught by Miharu to provide good moldability and stretchability, as well as resultant molding having a good appearance.

34. Applicant notes "there are not teachings or suggestions of using nylon 6, nylon 66, and nylon 6/66 in Ninomiya" (p10). However, note that while Ninomiya does not disclose all the features of the present claimed invention, it is used as teaching reference, and therefore, it is not necessary for this secondary reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept, namely EVOH pellets as described, and in combination with the primary reference, discloses the presently claimed invention.

35. Applicant asserts "the copolymer [of the present invention] is normal EVOH and apparently different from Miharu" (p10). As Applicant provides no other explanation, it is unclear how Miharu's EVOH differs from the presently disclosed EVOH.

36. Applicant submits Miharu does not disclose using compounding ingredients (p10). Again, Miharu discloses a blend of EVOH and PA, and Ninomiya discloses EVOH pellets having a boron compound (c1), an alkaline metal acetate (c3), an alkaline earth metal acetate (c4), and a phosphoric acid compound (c5). At the time of the invention, it would have been obvious to one of ordinary skill in the art to use the EVOH pellets as taught by Ninomiya in the thermoplastic composition taught by Miharu to provide good moldability and stretchability, as well as resultant molding having a good appearance.

37. Applicant submits "there are no disclosures in Miharu et al. of a laminated article having a layer composition as in the present invention" (p11). However, Miharu provides non-limiting exemplary laminates that overlap with the presently claimed structures (p10 ln 26-35), and further such general structures would be obvious to one of ordinary skill in the art for the reasons cited above.

38. Applicant points to Example 1 and Comparative Examples 1 and 2 to establish the criticality of the presently claimed M1/M2 ratio (p11). It is shown that Example 1 is superior in terms of delamination resistance, gas barrier property, and coloring. However, the data are not persuasive because the data are not commensurate in scope with the scope of the present claims as there is only data at one value of M1/M2 (while the present claims require ratio of 0.01-15) and for one specific type of sodium salt, bivalent

metal salt, phosphorous compound and hindered phenol component. Further, none of these examples appears to utilize nylon 6, nylon 66, or nylon 6/66 as now required in all the present claims.

Conclusion

39. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Moritani '644 discloses a resin comprising a thermoplastic such as polyamide, EVOH, and a metal salt containing at least one element from Groups I to II of the Periodic Table.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Freeman whose telephone number is (571)270-3469. The examiner can normally be reached on Monday-Friday 7:30-5:00PM EST (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on (571)272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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